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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,175	05/29/2001	Robert Pfeffer	476-1923.1	6796

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EXAMINER	
WILSON, ROBERT W	
ART UNIT	**PAPER NUMBER**
2661	

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/867,175	PFEFFER ET AL.	
	Examiner	Art Unit	
	Robert W. Wilson	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

PHIRIN SAM
PRIMARY EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.0 The application of Pferrer et. al. entitled POINT TO MULTIPOINT NETWORK filed on 5/29/01 requesting benefit from 60/207,800 dated 5/30/00. Claims 1-17 are pending.

Claim Rejections - 35 USC § 103

2.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 6-8, 12, & 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabenko et. al. (U.S. Patent No.: 6,834,057).

Referring to Claim 1, Rabenko teaches: Figure 2 which is a point-to-multipoint network per col. 3 line 29. The network has a headend which is connected to at least one cable modem or subscriber via HFC or shared medium per Figure 2. Packets are transmitted in TDMA time slots from the cable mode or subscriber to the CMTS which is in the headened per col. 4 lines 42-67 and as shown in Figure 2. The limitation "without the need to further segment the packet switched protocol" is a functional limitation without structure. The reference teaches that the CMTS adjusts the bandwidth based upon the length of the data being transmitted from the Cable modes or subscribers; consequently, the system is capable of optimizing the transfer of data in a time slot per col. 5 lines 15-35.

Rabenko does not expressly call for: without the need to further segment the packet switched protocol" but teaches a system which is capable of optimization per col. 5 lines 15-35.

It would have been obvious to one of ordinary skill in the art at the time of the invention to send packets without the need to further segment the packet switched protocol to the network in order to optimize the performance.

In Addition Rabenko teaches

Regarding Claim 6, in which the at least one subscriber station is arranged to periodically receive synchronization signals transmitted from the head end-station (Fig 11 or col. 7 lines 30-36)

Regarding Claim 7, in which differential time delays arising from differing paths lengths between the head-end station and outstation are absorbed by including guard bands in the TDMA protocol (Guard bands per col. 7 line 65-col. 8 line 5)

Regarding Claim 8, in which the point-to-multipoint network is an optical network (point-to-multipoint per col. 3 line 28)

Regarding Claim 12 comprising a point to multipoint network arrangement (point-to-multipoint per col. 3 line 28)

Referring to Claim 15, Rabenko teaches. The network per Figure 2 has a headend for a point-to-multipoint network per col. 3 line 29 providing HFC or shared medium connectivity between at least one cable modem or subscriber and the headend. Packets are transmitted in TDMA time slots from the cable mode or subscriber to the CMTS which is in the headend per col. 4 lines 42-67 and as shown in Figure 2. The limitation "without the need to further segment the packet switched protocol" is a functional limitation without structure. The reference teaches that the CMTS adjusts the bandwidth based upon the length of the data being transmitted from the Cable modes or subscribers; consequently, the system is capable of optimizing the transfer of data in a time slot per col. 5 lines 15-35.

Rabenko does not expressly call for: without the need to further segment the packet switched protocol" but teaches a system which is capable of optimization per col. 5 lines 15-35.

It would have been obvious to one of ordinary skill in the art at the time of the invention to send packets without the need to further segment the packet switched protocol to the network in order to optimize the performance.

In Addition Rabenko teaches:

Regarding Claim 16, head end (Headend or 1013 per Fig 1 or 1012 per Fig 2)

Regarding Claim 17, Rabenko teaches: A method of operating a point-to-multipoint network per col. 3 line 29 and Figure 2.

Figure 2 has a headend which is connected to at least one cable modem or subscriber via HFC or fiber or optical or shared medium per Figure 2. Packets are transmitted in TDMA time slots from the cable mode or subscriber to the CMTS which is in the headened per col. 4 lines 42-67 and as shown in Figure 2. The limitation "configured to obviate segmentation of packet-switched transport protocol packets" is a functional limitation without structure. The reference teaches that the CMTS adjusts the bandwidth based upon the length of the data being transmitted from the Cable modes or subscribers; consequently, the system is capable of optimizing the transfer of data in a time slot per col. 5 lines 15-35.

Rabenko does not expressly call for: configured to obviate segmentation of packet-switched transport protocol packets but teaches a system which is capable of optimization per col. 5 lines 15-35.

It would have been obvious to one of ordinary skill in the art at the time of the invention to send packets configured to obviate segmentation to the network in order to optimize the performance.

Claim Rejections - 35 USC § 103

4.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.0 Claims 2-5 & 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabenko et. al. (U.S. Patent No.: 6,834,057) in view of Data-over-Cable Service Interface Specification

Referring to claim 2, Rabenko teaches: A point-to-multipoint network arrangement according to claim 1,
Rabenko does not expressly call for: in which the packet-switched transport protocol employs packets formatted according to an Ethernet protocol

Data-over-Cable Service Interface Specification teaches: in which the packet-switched transport protocol employs packets formatted according to an Ethernet protocol (Pgs 11-20 and 47-54)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the Ethernet protocol of Data-over-Cable Service Interface Specification to the point-to-multipoint network of Rabenko in order to be standards compliant.

Referring to claim 3, Rabenko teaches: A point-to-multipoint network arrangement according to claim 1,

Rabenko does not expressly call for: in which the packet-switched transport protocol is arranged to carry Internet Protocol data

Data-over-Cable Service Interface Specification teaches: in which the packet-switched transport protocol is arranged to carry Internet Protocol data (Pgs 1-2, 11-12, & 16)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the Internet protocol of Data-over-Cable Service Interface Specification to the point-to-multipoint network of Rabenko in order to be standards compliant.

Referring to claim 4, Rabenko teaches: A point-to-multipoint network arrangement according to claim 1,

Rabenko does not expressly call for: in which the packet-switched transport protocol is arranged to carry unsegmented Ethernet frames

Data-over-Cable Service Interface Specification teaches: in which the packet-switched transport protocol is arranged to carry unsegmented Ethernet frames (The examiner has interpreted segmentation as the cutting up of Ethernet packets before they are inserted into the MAP PDU. On Pg 53 in Para 6.2.2 the spec teaches that the MAC sublayer must be able to support a variable-length Ethernet type PDU across the whole network in its entirety per Pg 53. The examiner interprets this to mean that the Ethernet PDU does not need to be segmented)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the unsegmented Ethernet of Data-over-Cable Service Interface Specification to the point-to-multipoint network of Rabenko in order to be standards compliant.

Referring to claim 5, Rabenko teaches: A point-to-multipoint network arrangement according to claim 1,

Rabenko does not expressly call for: in which the TDMA protocol employs frames each arranged to carry multiple packet-switched transport protocol packets

Data-over-Cable Service Interface Specification teaches: in which the TDMA protocol employs frames each arranged to carry multiple packet-switched transport protocol packets (MPEG, Ethernet, or ATM per Pgs 49-57 or multiple packet protocols)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the multiple packet-switched transport of Data-over-Cable Service Interface Specification to the point-to-multipoint network of Rabenko in order to be standards compliant

Referring to claim 11, Rabenko teaches: A point-to-multipoint network arrangement according to claim 1,

Rabenko does not expressly call for in which each subscriber station is allocated to one of a plurality of groups, each group transmitting on a distinct physical channel

Data-over-Cable Service Interface Specification teaches: in which each subscriber station is allocated to one of a plurality of groups, each group transmitting on a distinct physical channel (Channel ID or distinct physical channel per Pg 75)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add plurality of groups of Data-over-Cable Service Interface Specification to the point-to-multipoint network of Rabenko in order to be standards compliant

Claims 9 & 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabenko et. al. (U.S. Patent No.: 6,834,057) in view of WO 98/44758

Referring to claim 9, Rabenko teaches: A point-to-multipoint network according to claim 8,

Rabenko does not expressly call for: in which the optical network is a passive optical network

WO 98/44758 teaches: in which the optical network is a passive optical network (PON is a type of a fiber optic network per WO 98/44758 per Pg 3 lines 1-35.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the PON of WO 98/44758 in the network of Rabenko because it is a type of Fiber optic network.

Referring to claim 13, Rabenko teaches: telecommunication access network of claim 1

Rabenko does not expressly call: comprising a telecommunications access network comprising a passive optical network arrangement

WO 98/44758 teaches: in which the optical network is a passive optical network (PON is a type of a fiber optic network per WO 98/44758 per Pg 3 lines 1-35.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the PON of WO 98/44758 in the network of Rabenko because it is a type of Fiber optic network.

Referring to claim 14, Rabenko teaches: telecommunication network of claim 1

Rabenko does not expressly call for: telecommunications network comprising a passive optical network arrangement

WO 98/44758 teaches: passive optical network arrangement per Pg 3 lines 1-35.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the PON of WO 98/44758 in the network of Rabenko because it is a type of Fiber optic network.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rabenko et. al. (U.S. Patent No.: 6,834,057)

Referring to claim 10, Rabenko teaches: A point-to-multipoint network arrangement according to claim 1,

Rabenko does not expressly call for: in which the point-to-multipoint network is one of a wireless network and a high speed copper network

Rabenko teaches:HFC Network per Fig 2

It would have been obvious to one of ordinary skill in the art at the time of the invention that the Hybrid Fiber Copper network is another name for a high speed copper network.

Specification

6.0 The examiner objects to the reference a figure in the Abstract. The examiner requests that the applicant remove the reference to the figure.

Claim Objections

7.0 Claim12-14 are objected to because of the following informalities:

Referring to claims 12 & 13, claims 11 & 12 refer to a telecommunication access network of claim 1; however, claim 1 never claims a telecommunication access network but claims a point-to-multipoint network.

Referring to claim 14, claim 14 refers to the telecommunication network of claim 1, claim 1 never claims a telecommunication network but claims a point-to-multipoint network. The examiner recommends that the applicant amend the claim to : A point-to-multipoint network according to claim 1. Appropriate correction is required.

Response to Amendment

8.0 Applicant's arguments filed 6/10/05 have been fully considered but they are not

persuasive.

The examiner respectively disagrees with the applicant's argument that the reference needs to specifically show the limitation "without the need to further segment the packet switched protocol" because it is a functional limitation without structure. The reference teaches that the CMTS adjusts the bandwidth based upon the length of the data being transmitted from the Cable modes or subscribers; consequently, the system is capable of optimizing the transfer of data in a time slot per col. 5 lines 15-35; therefore, it would have been obvious to one of ordinary skill in

the art at the time of the invention to send packets without the need to further segment the packet switched protocol to the network in order to optimize the performance.

The examiner respectively disagrees with the applicant's argument that that the reference needs to specifically show "configured to obviate segmentation of packet-switched transport protocol" because it is a claim limitation which the applicant has not defined structure as to how the limitation has been performed. The reference teaches that the CMTS adjusts the bandwidth based upon the length of the data being transmitted from the Cable modes or subscribers; consequently, the system is capable of optimizing the transfer of data in a time slot per col. 5 lines 15-35; therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to send packets configured to obviate segmentation of packet-switched transport protocol to the network in order to optimize the performance.

Conclusion

9.0 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Stacey; US Patent No.: 6,434,154 dated 8/13/2002 in which he discloses Headend which utilizes TDMA per Fig 1 to send packets which require no further segmentation and reassembly per col. 7 lines 49-52. This reference is assigned to Nortel. It is not clear whether that the applicant owned the rights for 6,434,154 at the time that they applied for this application.

10.0 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W Wilson whose telephone number is 571/272-3075. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on 571/272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Robert W Wilson
Examiner
Art Unit 2661

RWW
6/21/05

PHIRIN SAM
PRIMARY EXAMINER